REMARKS

The title has been changed to be more clearly indicative of the invention.

In the Office action dated 3/22/05, the Examiner indicated as allowable when incorporating the parent claim claims 2-8, and 11, and rejected claims 1, 9, 10, and 12-14. However, the applicant strongly believes that all of the originally-submitted claims are clearly non-obvious in view of the cited art and should also be allowed. Thus, it is preferred for simplicity to retain the objected-to claims 2-8, and 11 in their original form. All of the pending claims have been repeated above for the Examiner's convenience.

Reconsideration and withdrawal of the rejection of claim 1 under §103 on Zuk et al ('401 patent) in view of Abele et al. ('680) are respectfully requested in view of the following remarks.

In rejecting claim 1 on the '401 patent, the Examiner relies on Figs. 4 and 8 of the '401 patent, which discloses elements #4a-4c and 2a-2c to correspond to the recital in claim 1 of a annular conical section of permanent magnetic material.

Firstly, it is evident from Fig. 1 of the '401 patent that there is no resemblance between the Zuk concepts and those of the applicant. In Fig. 1, the structure 2, 4 is configured to correspond in size to the head being imaged. There is no apparent showing or teaching of a widened cavity surrounding the region of interest in the inner cavity to accommodate, for example, the wider shoulders of a patient. In fact, it is clear that the patient's shoulders as shown are wider than the space between the sections 2 and 4.

Secondly, as is explained at great length in the applicant's specification, the permanent magnetic conical structure has the important merit that it can provide a uniform magnetic field capable of supporting MRI imaging in a region of interest that accommodates the patient's head, as well as a larger region around the patient's head to accommodate the larger shoulders of the patient and that also has a magnetic field that can be configured so as not to significantly distort the desired uniformity in the region of interest. For this including other possible purposes, a specially configured transition surface (5 in Fig. 2.4) between the inner pole piece 8 and the surrounding conical magnet 10 is provided.

In this aspect of the invention, the narrow end of the cone must be closer to the region of interest for the smaller head portion, and the wider end of the cone must be further from the

region of interest to accommodate the larger shoulder portion. See, for example, Fig. 2.7 of the instant drawings in which 172 represents the conical magnet, the region of interest lying in the head cavity 132. The larger body portion fits within the larger cavity 134.

There is nothing similar to the above in the '401 patent however you interpret it, since, among other things, in the applicant's view, 3 spaced concentric cylinders are not the equivalent of a conical structure. Moreover, it is also evident from Figs. 2 and 9 of Zuk, that even if, arguendo, the 3 spaced concentric cylinders are considered the equivalent of a conical structure, they are positioned in reverse, namely, the region of interest in Zuk is designated 18, and the inner magnet 4c is further from the region of interest 14 than are the outer magnets 4b, 4a. So the Zuk taper, if one can call it that, is backwards!

It is pointed out that Para. b)i) of claim 1 clearly recites that the narrow end of the cone is closer to the region of interest than the wider end. This modification of Zuk cannot possibly be derived from the Zuk teachings, since it is plain that the conical magnet was never taught by Zuk, and that Zuk did not concern himself with the problems of providing MRI imaging using a conical magnet for the reasons pointed out above. Fig. 1 of Zuk shows no consideration of the patient's shoulders, except to place them completely outside of the magnetic structure.

It is further pointed out that Para. b)ii) of claim 1 clearly recites that the pole piece is positioned within the conical magnetic section.

In comparison, Zuk does not appear to describe or illustrate a soft ferromagnetic member inside of the permanent magnets, much less forming a shaped interface surface. No similar modification of Zuk can be derived from Zuk for the reasons expressed above, namely, no cone, and no desire for shoulder accommodation.

The Abele '680 patent teachings do not and cannot supply the missing elements in Zuk. There is no conical geometry in the '680 patent; there is no annular interface between a soft ferromagnetic pole piece member inside of the conical permanent magnet section (in the '680 patent, the soft ferromagnetic member 32 is not annular and inside a conical magnetic section), and thus there cannot possible be a teaching in Abele that teaches anything concerning such an annular interface. Thus, even if Abele is added to the Zuk teachings, clear claim limitations are absent and are not suggested by the combination.

Hence, for these reasons, it is submitted that claim 1 is clearly non-obvious over the '401 and '680 patents however combined and must be allowed.

Since the remaining rejected claims depend from allowable claim 1, they too should be allowable for the same reasons.

Attention is also drawn to method claims 12-14. The latter claims recite that the steps apply to a magnetic structure in which an annular section of permanent magnetic material has a conical shape with the narrower end adjacent the region of interest, and an inner pole piece forming an annular curved interface surface. A series of steps are carried out to determine the shape of that curved interface such that it forms an equipotential surface.

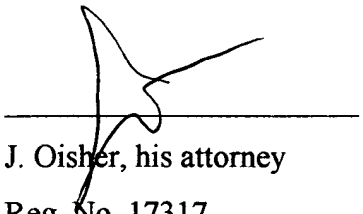
There can be nothing even remotely similar in either Zuk or Abele or any of the other cited art. Since neither Zuk nor Abele disclose a magnetic structure in which an annular section of permanent magnetic material has a conical shape with the narrower end adjacent the region of interest, and an inner pole piece forming an annular curved interface surface, there cannot possibly be in these cited patents any teaching relevant to these method claims 12-14.

Hence, for these reasons, these rejected method claims should also be allowed.

It is believed that the present amendment places the case in condition for allowance, and such action is respectfully solicited.

Respectfully submitted

M. Abele.



3/29/05

J. Oisher, his attorney

Reg. No. 17317

914-428-7338